**Claims:**

1. An interlaced-to-progressive conversion method, comprising:

receiving a control command to perform one of at least two interlaced-to-progressive conversion (IPC) techniques on input interlaced scan data; and

performing the IPC technique instructed by the received control command on the input interlaced scan data.

2. The method of claim 1, wherein the control command indicates to perform one of at least a spatial interpolation IPC technique and a spatial/temporal interpolation IPC technique.

3. The method of claim 2, wherein

the spatial interpolation IPC technique performs spatial interpolation on a current field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data; and

the spatial/temporal interpolation IPC technique performs directionally adaptive spatial interpolation selectively combined with temporal interpolation using the current field, at least one previous field and at least one subsequent field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data.

4. The method of claim 2, wherein the spatial/temporal interpolation IPC technique is adaptive.

5. The method of claim 2, further comprising:

generating the control command to indicate the spatial interpolation technique when a current field of the input interlaced scan data is one of preceded and followed by a field of a same type; and

generating the control command to indicate the spatial/temporal interpolation IPC conversion technique when the input interlaced scan data is field based interlaced scan data.

6. The method of claim 1, wherein the control command indicates to perform one of at least a spatial interpolation IPC technique, an alternative field output IPC technique in which two consecutive fields of the input interlaced scan data are alternately output on a scan line by scan line basis to produce a frame of progressive scan data, and a spatial/temporal interpolation IPC technique.

7. The method of claim 6, further comprising:

generating the control command to indicate the spatial interpolation technique when a current field of the input interlaced scan data is one of preceded and followed by a field of a same type;

generating the control command to indicate the alternate field output technique when the input interlaced scan data is frame based interlaced scan data; and

generating the control command to indicate the spatial/temporal interpolation IPC conversion technique when the input interlaced scan data is field based interlaced scan data.

8. An interlaced-to-progressive (IPC) converter, comprising:

a conversion structure configured to generate different streams of scan data from input interlaced scan data, the different streams of scan data representing conversion of the input interlaced scan data into portions of progressive scan data according to different IPC conversion techniques; and

a selector configured to selectively outputting the different streams of scan data as progressive scan data.

9. The IPC converter of claim 8, wherein the different IPC techniques include a spatial interpolation IPC technique and a spatial/temporal interpolation IPC technique.

10. The converter of claim 9, wherein

the spatial interpolation IPC technique performs spatial interpolation on a current field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data; and

the spatial/temporal interpolation IPC technique performs directionally adaptive spatial interpolation selectively combined with temporal interpolation using the current field and at least one previous field and at least one subsequent field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data.

11. The converter of claim 9, wherein the spatial/temporal interpolation IPC conversion technique is adaptive.

12. The IPC converter of claim 8, wherein the different IPC conversion techniques include a spatial interpolation IPC technique, an alternative field output IPC technique in which two consecutive fields of the input interlaced scan data are alternately output on a scan line by scan line basis to produce a frame of progressive scan data, and a spatial/temporal interpolation IPC technique.

13. The converter of claim 8, wherein the conversion structure comprises:

an interpolator configured to interpolate lines of a frame of progressive scan data missing from a current field of the input interlaced scan data by spatially interpolating the missing lines using the current field.

14. The converter of claim 8, wherein the conversion structure is configured to supply the selector with the input interlaced scan data of a current field and one of a preceding and following field of the input interlaced scan data.

15. The converter of claim 8, wherein the conversion structure comprises:

a spatial/temporal interpolator configured to perform a spatial/temporal interpolation IPC conversion technique on the input interlaced scan data to produce a portion of the progressive scan data.

16. The converter of claim 15, wherein the spatial/temporal interpolator is configured to perform adaptive spatial/temporal interpolation.

17. The converter of claim 15, wherein the spatial/temporal interpolator is configured to perform directionally adaptive spatial interpolation.

18. The converter of claim 17, wherein the spatial/temporal interpolator is configured to directionally adapt the spatial interpolation based on a measure of a difference between pixels neighboring a pixel being interpolated.

19. The converter of claim 15, wherein the spatial/temporal interpolator is configured to adapt the spatial/temporal interpolation based on a complexity of an image.

20. The converter of claim 15, wherein the spatial/temporal interpolator is configured to adapt the spatial/temporal interpolation to reduce an influence of the temporal interpolation as a change in an image over time increases.

21. The converter of claim 8, wherein

the conversion structure includes,

an interpolator configured to perform spatial interpolation on a current field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data; and

a spatial/temporal interpolator is configured to perform directionally adaptive spatial interpolation selectively combined with temporal interpolation using the current field, at least one previous field and at least one subsequent field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data; and

the selector is configured to receive output of the interpolator, and output of the spatial/temporal interpolator.

22. The converter of claim 21, wherein

the selector is configured to select output from the interpolator as a portion of the progressive scan data when the current field of the input interlaced scan data is one of preceded and followed by a field of a same type;

the selector is configured to select data from the current field of the input interlaced scan data and data from one of a previous or next field of the input interlaced scan data as the progressive scan data when the input interlaced scan data is frame based interlaced scan data; and

the selector is configured to select output from the spatial/temporal interpolator as a portion of the progressive scan data when the input interlaced scan data is field based interlaced scan data.

23. The converter of claim 12, further comprising:

a controller controlling the selector to select a scan data stream generated according to the spatial interpolation IPC technique when a field of the input interlaced scan data is one of preceded and followed by a field of a same type; to alternate outputting the current field and a field one of preceding and following the current when the input interlaced scan data is frame based interlaced scan data; and to select a scan data steam generated according to the spatial and temporal interpolation IPC technique when the input interlaced scan data is field based interlaced scan data.

24. An interlaced-to-progressive converter, comprising:

a spatial interpolator configured to perform spatial interpolation of a current field of interlaced scan data along a single direction to produce a first complementary field in a first mode indicated by a control command, and configured to perform directionally adaptive spatial interpolation of the current field to produce a second complementary field in a second mode indicated by the control command;

a temporal interpolator configured to perform temporal interpolation using the current field of interlaced scan data, at least one previous field of interlaced scan data and at least one subsequent field of interlaced scan data to produce a third complementary field in at least the second mode indicated by the control command; and

a conversion mode output device receiving output of the spatial interpolator and the temporal interpolator and generating a frame of progressive scan data based on the control command.

25. The converter of claim 24, wherein the conversion mode output device is configured to output the current field and the first complementary field on a scan line by scan line basis to produce a frame of progressive scan data in the first mode indicated by the control command; and is configured to combine the second complementary field and the third complementary field into a composite complementary field and to output the current field and the

composite complementary field on a scan line by scan line bases to produce a frame of progressive scan data in the second mode indicated by the control command.

26. The converter of claim 25, wherein

the spatial interpolator is configured to output the current field in a third mode indicated by the control command;

the temporal interpolator is configured to output one of the previous field and next field in the third mode indicated by the control command; and

the conversion mode output device is configured to alternatively outputs output received by the spatial and temporal interpolators on a line by line basis in the third mode indicated by the control command.

27. The converter of claim 26, further comprising:

a controller generating the control command to indicate the first mode when a field of the input interlaced scan data is one of preceded and followed by a field of a same type; to indicate the third mode when the input interlaced scan data is frame based interlaced scan data; and to indicate the second mode when the input interlaced scan data is field based interlaced scan data.

28. The converter of claim 25, wherein the conversion mode output device is configured to generate the composite complementary field by

adaptively combining the second complementary field and the third complementary field.

29. The converter of claim 28, wherein the conversion mode output device is configured to adaptively combining the second complementary field and the third complementary field based on a complexity of an image.

30. The converter of claim 28, wherein the conversion mode output device adaptively combining the second complementary field and the third complementary field to reduce an influence of the temporal interpolation as a change in an image over time increases.

31. The converter of claim 24, wherein the spatial interpolator is configured to perform directionally adaptive spatial interpolation of the current field to produce a second complementary field in a second mode based on a measure of a difference between pixels neighboring a pixel being interpolated.